California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation GFO-15-605 – Light Duty Vehicle Hydrogen Refueling Infrastructure

California Energy Commission

Edmund G. Brown Jr., Governor

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California Energy Commission

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to "develop and deploy innovative technologies that transform California's fuel and vehicle types to help attain the state's climate change policies." Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (CARB) to develop guidelines to ensure air quality improvements. The CARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The *AQIP Guidelines* require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this Localized Health Impacts Report is required to be available for public comment for 30 days prior to the approval of projects.

This Localized Health Impacts Report analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both. These impacts include, but are not limited to, communities of minority populations or low-income populations, as declared by the light duty vehicle hydrogen refueling infrastructure proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this Localized Health Impacts Report.

Keywords: Air pollution**,** air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (CARB), Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), fuel cell electric vehicles , localized health impact (LHI)

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343),* this Localized Health Impacts Report describes the alternative fuel demonstration projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include projects that require only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This Localized Health Impacts Report focuses on the potential impacts projects may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The projects in this Localized Health Impacts Report are assessed for potential health impacts for the communities in which they will be located. Based on this analysis, it is not anticipated that implementing these projects will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the projects stand to provide improved quality of life through cleaner air.

CHAPTER 1:
Projects Proposed for Funding

On April 6, 2016, the California Energy Commission released a competitive grant funding opportunity titled "Light Duty Vehicle Hydrogen Refueling Infrastructure" (GFO-15-605) under the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This grant opportunity was an offer to fund projects that will expand the network of publicly accessible hydrogen refueling stations that serve California's light-duty fuel cell electric vehicles.

On February 17, 2017, the Energy Commission posted the notice of proposed awards (NOPA) for GFO-15-605, resulting in one Interstate 5 (I-5) connector station and 15 main stations proposed for funding. This Localized Health Impacts Report assesses and reports on the potential localized health impacts of the proposed projects with public review and comment for a 30-day period.

This chapter summarizes the projects proposed for Energy Commission funding. Table 1 provides the applicant, project address, and environmental justice (EJ) indicators. (See Appendix A.)

Table 1: Proposed Projects for Light-Duty Vehicle Hydrogen Refueling Infrastructure With Environmental Justice Indicators

I-5 Connector Station		
Applicant	**Project Address**	**EJ Indicator(s)**
Air Liquide Advanced Technologies U.S. LLC	12754 State Highway 33 Santa Nella, CA 95322	Minority, Poverty, and Unemployment

Main Station		
Applicant	**Project Address**	**EJ Indicator(s)**
Equilon Enterprises LLC (dba Shell Oil Products U.S.)	1250 University Avenue Berkeley, CA 94702	Poverty
	6141 Greenback Lane Citrus Heights, CA 95621	Poverty and Unemployment
	3510 Fair Oaks Boulevard Sacramento, CA 95864	Poverty and Unemployment
	551 Third Street San Francisco, 94107	Minority

Main Station		
Applicant	**Project Address**	**EJ Indicator(s)**
	3550 Mission Street San Francisco, CA 94110	
	1201 Harrison Street San Francisco, CA 94103	
	2900 North Main Street Walnut Creek, CA 94597	Age
FirstElement Fuel, Inc.	337 East Hamilton Avenue Campbell, CA 95008	None
	16001 Beach Boulevard Huntington Beach, CA 92647	Age
	5333 University Drive Irvine, CA 92612	Minority
	350 Grand Avenue Oakland, CA 94610	Poverty
	5494 Mission Center Road San Diego, CA 92108	Poverty
	1866 Lincoln Boulevard Santa Monica, CA 90405	Age
	14478 Ventura Boulevard Sherman Oaks, CA 91423	None
	1296 Sunnyvale Saratoga Road Sunnyvale, CA 94087	Minority

Source: California Energy Commission staff

CHAPTER 2:
I-5 Connector Station

Air Liquide Advanced Technologies U.S. LLC

Santa Nella

12754 State Highway 33, Santa Nella, CA 95322

The proposed hydrogen refueling location will contain a station delivering a maximum of 180 kilograms per day and will be located at an existing Circle K gasoline fueling service station. The station property is situated between the north and southbound Interstate 5 (I-5) access ramps, on the south side of California State Route 33 (CA-33) and is physically adjacent to the I-5 roadway right-of-way. The proposed plan will place an "H2" sign that would receive high visibility by all travelers along I-5 and CA-33.

Available fuel cell vehicles can travel up to 312 miles before needing to refuel. To have a functioning I-5 corridor, drivers traveling north-south across the state need a refueling station in the Central Valley to complete a trip from the Bay Area, or Sacramento, to Los Angeles. It is a 342-mile drive from San Jose, at the southern end of the Bay Area, to Los Angeles. It is 386 miles from Sacramento to Los Angeles.

The station location is 272 miles from Los Angeles via I-5, and 113 miles from Sacramento via I-5. It is 73 miles from San Jose and the Bay Area via Highway 152 from Highway 101, which, along with I-5, form the quickest direct route from Los Angeles. The intersection of Highway 152 and I-5 does not have any existing infrastructure. The proposed location, 3 miles away on I-5, has the closest existing gas station.

The proposed hydrogen refueling station is based upon the Air Liquide product model, C100. This station design meets performance requirements in California, Germany, and Japan. The C100 stations are designed to refuel vehicles safely and quickly. This is accomplished through equipment that ensures quick and complete fill up to 10 kilograms.

Hydrogen delivery at hydrogen refueling stations is different than traditional delivery to industrial gas customers. The frequency and time window of hydrogen deliveries have the same characteristics as gasoline deliveries, particularly with regard to accessibility for the delivery vehicles and time spent offloading. While some early stations will be supplied with traditional gas trailers ('tube trailers"), Air Liquide has developed a high-pressure trailer specifically for delivery to hydrogen refueling stations located at existing gasoline stations. The trailer is already under development for use in Air Liquide's northeast hydrogen refueling station project.

The hydrogen fuel will be transported in standard U.S. Department of Transportation approved trucks fitted with all appropriate California emissions compliance. The emissions attributed to

this project are diluted due to these transportation trucks also supplying hydrogen to projects with hydrogen applications outside the Hydrogen Energy group.

There will be no additional localized emissions from increased vehicle traffic because all vehicles using the station are zero-emission vehicles.

The proposed site is within one mile of one school and no day care or medical offices/hospitals.

CHAPTER 3:
Main Station

Equilon Enterprises LLC (DBA Shell Oil Products U.S.)

The proposed hydrogen refueling stations will be installed within Shell's existing conventional fueling network of retail stations, offering fuel cell electric vehicle drivers the equivalent service to that of conventional vehicles. Each station will have two 200 kilogram systems, with the capacity of fueling up to 400 kilograms per day, which can service up to 100 fuel cell electric vehicles per day.

The proposed project will use new and efficient heavy-duty on-road diesel trucks to deliver hydrogen to the refueling stations.

Upon completion, the hydrogen refueling stations will not emit either criteria pollutants or toxic air contaminants into the localized air shed thus, there are no increased impacts to the localized air shed to adversely affect the health of the local community. Rather, the net effect operating fuel cell vehicles, instead of gasoline vehicles, is significant removal of pollutants and toxic air contaminants to the localized air shed. The emissions associated with the delivery of hydrogen to the station are negligible.

Berkeley

1250 University Avenue, Berkeley, CA 94702

The proposed hydrogen refueling station will be located at an existing gasoline fueling station zoned as general commercial. Surrounding the site on the east and south are homes along the property line. The proposed site is within one mile of eight schools, nine day care centers, and two medical offices/hospitals.

Citrus Heights

6141 Greenback Lane, Citrus Heights, CA 95621

The proposed hydrogen refueling station will be located at an existing gasoline fueling station located at the north corner of Greenback Lane and Auburn Boulevard. The surrounding area is a large parking lot on two sides for a shopping plaza to the north. Retail businesses and gasoline stations are located at the opposite sides of the streets. The area is zoned for a shopping center. The proposed site is within one mile of two schools, two day care centers, and three medical offices/hospitals.

Sacramento

3510 Fair Oaks Boulevard, Sacramento, CA 95864

The proposed hydrogen refueling station will be located at an existing gasoline fueling station at the southeast corner of Fair Oaks Boulevard and Watt Avenue. The surrounding area is a large parking lot on two sides for a shopping plaza to the north. Retail businesses

and gasoline stations are at the opposite sides of the streets. The property is zoned for a shopping center. The proposed site is within one mile of three schools, no day care centers, and no medical offices/hospitals.

San Francisco

551 Third Street, San Francisco, CA 94107

The proposed hydrogen refueling station will be at an existing gasoline fueling station and is zoned as service/light industrial. On the east property line is a Web design firm office. The nearest home is about 75 feet from the property line to the north. The proposed site is within one mile of five schools, five day care centers, and three medical offices/hospitals.

3550 Mission Street, San Francisco, CA 94110

The proposed hydrogen refueling station will be at an existing retail gasoline fueling station on the corner of Mission Street, Randall Street, and San Jose Avenue directly across from Fairmount Elementary School. Overhead power lines run along all three frontage streets. A major electrical power enclosure resides on the property (with easement) on the Randall Street side. The property is zoned as neighborhood commercial moderate scale. The proposed site is within one mile of three schools, nine day care centers, and one medical office/hospital.

1201 Harrison Street, San Francisco, CA 94103

The proposed hydrogen refueling station will be located at an existing retail gasoline/diesel fueling station. It is on a corner of the intersection of Harrison Street and 8th Street, close to Interstate 80 and United States Highway 101. The property is zoned as service/arts/light industrial. The proposed site is within one mile of four schools, six day care centers, and two medical offices/hospitals.

Walnut Creek

2900 North Main Street, Walnut Creek, CA 94597

The proposed hydrogen refueling station will be at an existing retail gasoline/diesel fueling station next to the Interstate 680 freeway at the northeast corner of North Main Street and Treat Boulevard. The surrounding area is a large parking lot on two sides for a shopping plaza to the east. Retail businesses are to the north and to the west of the site, which is zoned community commercial. The proposed site is within one mile of two schools, two day care centers, and no medical offices/hospitals.

Table 2: Truck Deliveries of Hydrogen per Station and Transport-Related Emissions

Station Location	Delivery Distance (Miles/One-Way)	Number of Hydrogen Deliveries 2018	Number of Hydrogen Deliveries 2019	Number of Hydrogen Deliveries 2020	Transport-Related Emissions (per station) San Francisco, Berkeley, and Walnut Creek have the same emissions data. Citrus Heights and Sacramento have the same emissions data.
San Francisco (Mission Street)	45	55	73	117	
San Francisco (Harrison Street)	45	55	73	117	
San Francisco (Third Street)	45	55	73	117	
Berkeley	45	55	73	117	
Walnut Creek	45	55	73	117	
Citrus Heights	126	55	73	117	
Sacramento	126	55	73	117	

	2018	2019	2020
NOx/kg	2.2	6.9	11.1
PM 2.5/kg	0.0	0.1	0.2
HC/kg	0.1	0.5	0.7
CO/kg	0.6	2.0	3.1

	2018	2019	2020
NOx/kg	6.1	19.3	31.0
PM 2.5/kg	0.1	0.4	0.6
HC/kg	0.4	1.3	2.1
CO/kg	1.7	5.5	8.8

Source: Equilon Enterprise LLC

FirstElement Fuel, Inc.

The proposed hydrogen refueling stations will be located at existing conventional retail fuel stations and will have the capacity of 310 kilograms per day with a design that is ready to be upgraded to 600 kilograms per day. All stations will be in strategic locations to expand coverage and create redundancy in key markets.

Campbell

337 East Hamilton Avenue, Campbell, CA 95008

The proposed hydrogen refueling station will be at an existing commercially zoned gasoline station. There is a service station and convenience store on the property. There are homes to the north, east, south, and west within 1/4 mile. Commercial buildings are located to the east and west within 1/4 mile. The proposed site is within one mile of two schools, three day care centers, and one medical office/hospital.

Huntington Beach

16001 Beach Boulevard, Huntington Beach, CA 92647

The proposed hydrogen refueling station will be located at a gasoline station. A service station and convenience store are on the property. Commercial buildings are located to the north, south, east, and west within a 1/4 mile. The proposed site is within one mile of two schools, two day care centers, and no medical offices/hospitals.

Irvine

5333 University Drive, Irvine, CA 92612

The proposed hydrogen refueling station will be at an existing service station with a convenience store on the property. The proposed site is within one mile of two schools, three day care centers, and no medical offices/hospitals.

Oakland

350 Grand Avenue, Oakland, CA 94610

The proposed hydrogen refueling station will be at an existing service station with a convenience store on the property. There are homes to the north and east within 1/4 mile. Commercial buildings are located to the south, east, and west within 1/4 mile. The proposed site is within one mile of four schools, five day care centers, and one medical office/hospital. The proposed site is also within a 1/4 mile of a children's amusement park.

San Diego

5494 Mission Center Road, San Diego, CA 92108

The proposed hydrogen refueling station will be at an existing service station with a convenience store on the property. Commercial buildings are to the north, south, east and west within a 1/4 mile. There are no schools are day care centers within one mile of the proposed site. There are two medical offices/hospitals within one mile.

Santa Monica

1866 Lincoln Boulevard, Santa Monica, CA 90405

The proposed hydrogen refueling station will be located at an existing service station with a convenience store on the property. Commercial buildings are to the north, south, east and west within a 1/4 mile. The proposed site is within one mile of four schools, four day care centers, and no medical offices/hospitals.

Sherman Oaks

14478 Ventura Boulevard, Sherman Oaks, CA 91423

The proposed hydrogen refueling station will be located at an existing service station with a convenience store on property. There are homes to the south within a 1/4 mile. Commercial buildings are located to the north, east, and west within a 1/4 mile. The proposed site is within one mile of two schools, four day care centers, and no medical offices/hospitals.

Sunnyvale

1296 Sunnyvale Saratoga Road, Sunnyvale, CA 94087

The proposed hydrogen refueling station will be in an existing neighborhood commercial district gasoline station with a service station and convenience store on the property. There are homes to the north, east, south, and west within a 1/4 mile. Commercial buildings are to the north and south within a 1/4 mile. The proposed site is within one mile of four schools, three day care centers, and no medical offices/hospitals.

Table 3: Truck Deliveries of Hydrogen per Station and Transport-Related Emissions

Station Location	Delivery Distance in Miles (Average)	Number of Hydrogen Truck Deliveries for the First Five Years of Operation (Average)	Transport-Generated Emissions (per station)
Campbell Huntington Beach Irvine Oakland San Diego Santa Monica Sherman Oaks Sunnyvale	50	1000	Pollutant / g/mile NOx / 9.89 SOx / 0.02 ROG / 0.42 CO / 1.59 PM / 0.43

Source: First Element Fuel Inc.

CHAPTER 4: Approach

The Localized Health Impact Report (LHI Report) Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by hydrogen refueling stations. The California Air Resources Board's (CARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.[1] Other resources used in this assessment are the *California Infrastructure State Implementation Plans,*[2] which contain publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*[3].

For this LHI Report, the Energy Commission interprets "permits" to connote discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial-level permits in this report.

The cities/towns where the projects will be located are in nonattainment zones for ozone, PM[4] 2.5, and PM 10. Table 1 shows the EJ indicators for the projects covering 14 cities/towns, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 4 shows the demographics. Santa Nella, Citrus Heights, and Sacramento are classified high-risk communities, according to the Environmental Justice Screening Method (EJSM).

Staff considered emissions from the proposed projects. Truck delivery of hydrogen will be the only source of criteria pollutants; however, due to the infrequency of deliveries, the impacts will be marginal. Assessed criteria pollutants may include reactive organic gases (ROG), carbon monoxide (CO), oxides of nitrogen (NO_x), sulfur oxide (SO_x), hydrocarbons (HC), and particulate matter (PM10).

The proposed projects are expected to have a net benefit by reducing emissions and leading to improved air quality. While overall air quality depends on several factors, staff expects that air quality will improve over time where the sites are proposed because there are no expected harmful emissions from the stations and there will be reduced emissions overall from driving fuel cell electric vehicles.

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1 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution, 2010* (Sacramento, California).
2 http://www.arb.ca.gov/planning/sip/sip.htm.
3 http://www.epa.gov/oaqps001/greenbk.
4 "Particulate matter" is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled, and is a chief component of exhaust emissions from heavy-duty diesel engines.

CHAPTER 5:
Summary

If funded, the proposed projects would result in 16 sites for hydrogen refueling. The new hydrogen refueling sites will increase the use of hydrogen fuel cell vehicles. As more hydrogen fuel cell vehicles enter the market and begin to displace gasoline and diesel vehicles, tailpipe pollutants will decrease significantly.

The new hydrogen facilities stand to nominally increase traffic for the projects that involve hydrogen delivery by truck. Yet, a net benefit is realized from less petroleum use and more alternative fuel use as a result of these proposed projects. The anticipated impacts to the cities where these projects will be located are positive in terms of cleaner air and anticipated greenhouse gas reductions. There will be a reduction of known harmful emissions when a fuel cell electric vehicle refuels at these stations as it will replace gasoline vehicles, which would also help achieve both energy and climate change goals.

CHAPTER 6:
Acronyms

Air Quality Improvement Program (AQIP)

California Air Resources Board (CARB)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Carbon monoxide (CO)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

Grant funding opportunity (GFO)

Hydrocarbons (HC)

Localized health impact (LHI)

Nitrogen oxide (NO_x)

Notice of proposed awards (NOPA)

Particulate matter (PM)

Reactive organic gases (ROG)

State Implementation Plan (SIP)

Sulfur oxide (SO_x)

Table 4: Environmental Justice (EJ) Indicators Compared With California

Yellow highlighted areas indicate numbers (percentages) that meet the definition for EJ indicators.
An asterisk may signify a default to county demographics and/or labor information.

	Number of EJ Indicators by Category	Below Poverty Level (2015)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (March 2017)
California		**15.3%**	**6.2%**	**1.0%**	**13.0%**	**37.6%**	**6.8%**	**11.4%**	**4.9%**
		>15.3%	**>30%**	**>30%**	**>30%**	**>30%**	**>8.16%**	**>13.8%**	**>4.9%**
Berkeley	1	20.4%	10.0%	0.4%	19.3%	10.8%	3.7%	11.7%	3.1%
Campbell	None	6.2%	2.9%	0.7%	16.1%	18.4%	6.6%	11.2%	2.5%
Citrus Heights	2	15.4%	3.3%	0.9%	3.3%	16.5%	6.7%	13.3%	5.4%
Huntington Beach	1	9.4%	1.0%	0.5%	11.1%	17.1%	5.1%	14.2%	3.5%
Irvine	1	12.3%	1.8%	0.2%	39.2%	9.2%	5.7%	8.7%	2.7%
Oakland	1	20.4%	28.0%	0.8%	16.8%	25.4%	6.7%	11.1%	4.8%
Sacramento	2	22.0%	14.6%	1.1%	18.3%	26.9%	7.5%	10.6%	5.4%
San Diego	1	15.4%	6.7%	0.6%	15.9%	28.8%	6.2%	10.7%	4.0%
San Francisco	1	13.2%	6.1%	0.5%	33.3%	15.1%	4.4%	13.6%	3.0%
Santa Monica	1	11.3%	3.9%	0.4%	9.0%	13.1%	4.1%	15.0%	3.7%
Santa Nella	3	58.7%	1.6%	1.8%	2.2%	70.1%	8.0%	6.7%	12.2%
Sherman Oaks*	None	5.68%	8.7%	0.7%	5.0%	11.%	6.6%	10.9%	4.3%
Sunnyvale	1	7.5%	2.0%	0.5%	40.9%	18.9%	8.0%	11.2%	3.1%
Walnut Creek	1	5.9%	1.6%	0.2%	12.5%	8.6%	4.1%	26.6%	2.8%

Sources: Unemployment information from the State of California, Employee Development Department Labor Market Information Div.: http://www.labormarketinfo.edd.ca.gov/data/unemployment-and-labor-force.html#Tool and http://www.labormarketinfo.edd.ca.gov/data/labor-force-and-unemployment-for-cities-and-census-areas.html U.S. Census Bureau, http://www.census.gov/quickfacts/table/PST045215/0664000,06,00 and http://factfinder.census.gov/faces/nav/jsf/pages/community_facts.xhtml

APPENDIX A:
Localized Health Impact Report Assessment Method

Based on the California Energy Commission's interpretation of the *California ARB* AQIP *Guidelines*, this LHI Report assesses the potential impacts to communities because of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

"(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

> (A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.
>
> (B) Projects must be selected and approved for funding in a publicly noticed meeting."

This LHI Report is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review. This LHI Report includes staff's application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks[5].

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

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5 California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making, 2010.* (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high-risk communities, environmental justice (EJ) indicators for locations of the hydrogen refueling stations are compared to data from the U.S. Census Bureau or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high- risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 2.5, or PM 10

Part 2:

- Communities having more than one of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment and (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
    - A minority subset represents more than 30 percent of a given city's population.
    - A city's poverty level exceeds California's poverty level.
    - A city's unemployment rate exceeds California's unemployment rate.
    - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California.